First & Final Bill

CONTRACT CERTIFICATE
(For Other Works)

No: BRNo-46 29/8/18.
Division: R.R Nagar

Date:
Sub- Division: R.R Nagar , Electrical

Bill Received No.....Dated.....Cash Book Voucher No.....dated..... BRNo-46 29/8/18

Scheduled Docket No.

Name of Work (as per sanctioned estimate): **Providing Street Light in BBMP wards of Rajarajeshwarinagar Assembly Constituency (Ward No. 16,17,37,38,42,69,73,129 &160)**

Name of Contractor and Full Adress:

Executive Engineer-3
KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LTD.
No-18, KNS Complex,
2nd Floor, Near Pavitra Paradise,
Basaveshwara Nagar, Bangalore-79.

Work order No : EE/ELE/RRN/W.O/28/2016-17 Dtd: 28-02-2017 **Budget Head:** P2415

Reference to Agreement : EE/ELE/RRN/AG/28/2016-17 Dtd: 28-02-2017 **Job Code:016-17-000001**

Certified that the measurements were taken by me on 27/08 and recorded of page nos 221237 to 221259 of measurement Book No: 2213/18-19 and that the work is satisfactorily executed.

Asst. Executive Engineer
KRIDL, BBMP, RR Nagara
Bangalore

Contractor **Officer in charge of work**

Certified that the measurements were checked by me on 27/08/18 and found correct. The work is satisfactorily executed.

Cetified that the quantities of materials shown in columns 3 of Account II have been actually brought to Site of the work and the contractor has not previously received any advance on this security. These materials are of an imperishable nature and are all required for immediate use on the work in the connection with item for finished work have been agreed upon and normal agreement signed and executed by the contractor is recorded in the the office

Sub-division Officer

II Memorandum of Payment

1) Total value of work done or supplies as per account within
2) Deduct amount to be held in re3serve being .....percent Rs.....
3) " Balance
4) Deduct payment :
   a) Amount of previous payment as in the Office Cash Book Voucher No.....Dated.....S.D.No.....
      Amount adjusted towards cash advance recovery of
   b) Payments cost store or other material supplied.
      Now made recovery amount creditable to this/ other work
      Amount paid on this bill cheque/cash
5) Balance being unpaid value of work done held in reserve
6) Deduct cash advance made on the Office Cash Book Voucher No..... dated.....less adjustments
7) Net amount due to or from contractor
   Unadjusted items
8) Advance to contractor for materials brought to site (as detailed) within
   Value of Government materials supplied

Gross: 1,99,56,998=00

Adjustments Details

IT : 399140=00
GST : 399140=00
CBF : 19957=00
FSD : 997850=00
LC : 199570=00
FINE : 18200=00
OTHERS :
TOTAL : 2033857=00

Net: 1,79,23,141=00

Asst. Executive Engineer
KRIDL, BBMP, RR Nagara
Bangalore

Contractors Signature

Received Rs.....(in words)
.....
by cash and adjustment of payment as per memorandum.
Witnesses :
1.
2.
Dated .....Signature of Contractor

Asst. Executive Engineer
KRIDL, BBMP, RR Nagara
Bangalore

Stamp

Paid by me by cheque No.....Dated .....
Cash Rs.....Dated.....

Initials of Officer making payment

(For use in the office)
Passed Rs. 1,99,56,998
Cheque Rs. 1,79,23,141 On
Adjustment Rs. 20,33,857
Rs in Words One Crore seventy nine lakh twenty three thousand one hundred forty one only

Executive Engineer (Ele)

Name of the work :-Providing Street Light in BBMP wards of Rajarajeshwarinagar Assembly Constituency (Ward No. 16,17,37,38,42,69,73,129 &160)

	Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
			Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
1	LED Street light.Supply of LED Streetlight with pressure die cast aluminum housing body with optimal heat sink for better thermal dissipation. Diffuser with Injection moulded & is made of polycarbonate material with high transmission index, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminare > IK08. Power Factor >0.9 with mains Current should not be greater than 0.1A to 0.7A & Surge Protection- Min 4KV along with Over voltage/Overload, short circuit/ miswiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Over load & Short circuit protection ensures reliable operation in spite of problem in output side. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED Efficiency>130lm/w at 1W & Fixture Efficiency >80lm/w with nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 5 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED source manufacture. Suitable for B1/B2 Roads as per IS 1944 Part I & Part II. 4.35.1) LED Streetlight 24watts	Each			146	6912.00	1009152.00	146	1009152.00
2	LED Street light. Supply of LED Streetlight with pressure die cast aluminum housing body with optimal heat sink for better thermal dissipation. Diffuser with Injection moulded & is made of polycarbonate material with high transmission index, delivering superior light output. Rated life Burning Hrs. 50000 hr. @ Lumen Maintenance of 70%. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains Current should not be greater than 0.1A to 0.7A & Surge Protection- Min 4 KV along with Over voltage/Overload, short circuit/ miswiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Over load & Short circuit protection ensures reliable operation in spite of problem in output side. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption.LED Efficiency>130lm/w at 1W & Fixture Efficiency >80lm/w with nominal CRI 75+. housing with supplier word mark / name shall be engraved / Embossing on the die cast housing / body part. . Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Warranty of 5 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED source manufacturer. Suitable for A1/A2 Roads as per IS 1944 Part I & Part II. a) 90 Watts	Each			237	31250.00	7406250.00	237	7406250.00

AEE (Ele)

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Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
		Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
LED Flood Light. Supplying of LED Floodlight with .....W System Power consumption pressure die cast aluminum housing with powder coating with IP 65 protection. 1, 200-275V voltage with electronic Driver, PF>0.9, should meet ANSI 2G Vibration test, Compliance to UL/CE with Class I. System rating shall be 50K hrs. @ Lumen maintenance of 70%, system efficacy > 80lm/w. Over load & Short circuit protection ensures reliable operation in spite of problem in output side. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED Efficiency>130lm/w at 1W & Fixture Efficiency >80lm/w with nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 5 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer. LED Floodlight 110W	Each			12	17593.00	211116.00	12	211116.00
4 Releasing and Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.(1.9 times the Basic Rate for Fixing)	Each			200	334.4	66880.00	200	66880.00
5 Supplying and Fixing of.....mm dia class A GI pipe bracket up to 2 mtrs long bent at suitable angle and fixing to this bracket 1x40/2x40 watts fluorescent tube street light fitting of all capacities to GI or CI or rail or RCC pole / wall using suitable clamps, bolts, and nuts and wiring using suitable capacity wires. 17.1.2)Using 32mm dia G.I.pipe	Each			200	893.00	178600.00	200	178600.00
6 Supply and Installation/Fixing/ Provision of Outdoor type Thermoplastic modular panel enclosure with transparent polycarbonate lid, shock proof, IP 65 (Weather Proof) rust proof, water proof, corrosion proof having internally embedded gasket on both lid and flap suitable to fix. Single phase/three phase energy meter in suitable base plate and having a provision for Fuse/MCB cutout with suitable transparent hinged flap opening for operating MCB along with complete tamper proof SEALING facility 300mmx450mmx214mm	Each			80	5826.00	466080.00	80	466080.00
7 Supply of solar lux level street light controller -single phase 3KW	Each			80	7984.00	638720.00	80	638720.00
8 Supply and fixing of 4pole power contactor with NO/NC contacts on existing wood/panel board using necessary bolts, nuts, washers and wiring etc., complete with AC-3 Rating and as per IS-13947. 6.12.4)100-125Amps	each			80	9915.00	793200.00	80	793200.00
9 Supplying and fixing angle iron frame work fabricated out of M.S angle iron... and M.S. flat... with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint.	mtr			78	263.00	20514.00	78	20514.00
10 Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.100Amps	each			80	360.00	28800.00	80	28800.00
11 Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10K and Complete wiring as required. 40-63 Amps SP	each			160	677.00	108320.00	160	108320.00
12 Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes 25 sqmm long barrel	Each			310	20.59	6332.90	310	6382.90

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	Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
			Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
13	Supplying of 1.1 KV LT UG cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanized, steel strip confirming to IS-3975:1990 (No of Strip indicated in GTP) & extruded PVC outer sheathed armoured cable with specified IS-1554 Part-1:1998 & confirming GTP of GROUP-A.7.4.5) 3.5 core 25 sqmm	mtr			790	165.60	130824.00	790	130824.00
14	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe/ stoneware pipe/ on wall/ on pole as required .II. On wall /Structure 7.8.7) 25 sqmm to 75 sqmm	mtr			790	34.80	27492.00	790	27492.00
15	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7) 7.9.2)-In soil (hard)	Mtr			0	106.00	0.00	0	0.00
16	Supplying ..... amps rated 3phase with neutral bus bar using required capacity electrolytic aluminum strips covered with heat shrinkable coloured PVC sleeve, mounted on phenolic/FRP/DMC insulator which are mounted on powder coated 40x6mm M.S.flat frame work in existing panel board. The bus bar shall have suitable holes for termination of incoming and outgoing cables as per IS specification with necessary bolts, nuts and washers etc., complete.6.38.1)100Amps 4x30x6mm Aluminum Strips	mtr			8	2135.00	17080.00	8	17080.00
	PART B:-Lightings to Goraguntepalya Road From Tumkur Road to Kuvempu statue								
1	Fabricating, supplying and erecting swaged tubular pole of height ...Mtr having three sections, and providing two coats of red oxide paint and finished with two coats of enameled paint of approved quality and colour and M.S. base plate of suitable size welded at the bottom of the pole(as per IS) and 40mm dia GI / flexible PVC pipe of 1 mtr length fitted to the heavy gauge polycarbonate control box including 5way connector of size 167x125x82mm for 7.5M pole/200x160x98mm for remaining length of pole with front opening cover, with locking arrangements and suitable capacity MCB / DP switch, The pole shall be erected in cement concrete work (1:2:4) including excavation and refilling of planting depth of the pole to the ground level and the coping CC shall be up to 0.6M above ground level as per IS 2713 - 7. Erection of light duty pole on Footpath a) 7.5 Mt (4.5Mt Hb,114.3mm dia 4.5mm thick x1.5M Hm, 88.9 mm dia 4.50mm thick x 1.5 M Ht,76.1 mm dia 3.25mm thick) as per IS 410 SP 5 (Base Plate of size 300X300X6mm) KPWD Electrical SR 2007-08	Each			26	9000.00	234000.00	26	234000.00
2	Supplying and fixing telescopic M.S. bracket fabricated by using 0.5m length 4" dia telescopic M. S. pipe, with 2" dia 1.5m long M. S. bracket and are welded with suitable angle, using 6mm thick M. S. sheet, grip bolts & nuts, as required, suitable for 9 to 12 mtrs. M. S. tubular pole, with necessary two coats of painting, with all other accessories. 17.4.1)Single bracket 1.5 Mtr. Length	Each			26	1292.00	33592.00	26	33592.00
3	Supplying of 1.1 KV LT UG cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanized, steel strip confirming to IS-3975:1990 (No of Strip indicated in GTP) & extruded PVC outer sheathed armoured cable with specified IS-1554 Part-1:1998 & confirming GTP of GROUP-A.7.4.5) 3.5 core 25 sqmm	mtr			612	165.60	101347.20	612	101347.20
4	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe/ stoneware pipe/ on wall/ on pole as required In existing trench/duct.7.8. 7.8.2) 25 sqmm to 75 sqmm	mtr			612	16.20	9914.40	612	9914.40
5	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7) 7.9.2)-In soil (hard)	Mtr			575	106.00	60950.00	575	60950.00

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	Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
			Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
	Supply and laying double walled corrugated (DWC) HDPE Pipe including all necessary connecting Sockets/Couplings/Tees/Bends/End-caps of same materials in existing trench as per IS 14930 part -II suitable for drawing underground cables. 7.20.1)-40mm OD / 32mm ID	Mtr			645	98.00	63210.00	645	63210.00
7	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100v grade, multistrand copper with low conductor resistence single core wire in open or consealed system of wiring wit specified IS-694:1990 & confirming to GTP of group A..2.5.3) 2.5 sqmm	Per Mtr.			500	29.20	14600.00	500	14600.00
	a) 6sqmm	Per Mtr.			40	63.80	2552.00	40	2552.00
8	KSRB 2-2.2 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5	Cum			11	283.02	3113.22	11	3113.22
9	KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.43cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2	Cum			11	5880.88	64689.68	11	64689.68
10	KSRB 4-6.1 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specificaitons. Specification No. KBS 4.6.2	Sqm			74	239.56	17727.44	74	17727.44
11	KSRB 4.9.1 : Providing mild steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3 (Item No. - 4.45, Page No. 17)	q			0.6	6368.48	3821.09	1	3821.09
	PART-C, JP PARK Aand Yeshwanthpura ward Parks light Poles & other woks								
1	Fabricating, supplying and errection of swaged tubular pole of height 3.5Mtr having three sections and providing two coats of red oxide paint and finished with two coats of enameled paint of approved quality and colour and M.S. Base plate of suitable size 200mmX200mmX6mm thick welded at the bottom of the pole (as per IS) and 40 mm dia GI/flexible PVC pipe of 1 Mtr. Length fitted to the 18 gauge M.S control box of size167mmX125mmX82mm arrangements 30amps porcelain fuse cut out/DP switch.1no of 4way connector in case of cable looping. The pole shall be erected n cement concrete work(1:2:4) including excavation and refilling.a)3.5Mtr Pole. (top-0.5mtr,2" inner dia bottom-1.5mtr,3" dia,Middle-1.5 mtr) Planting depth 0.75 Mtr.	each			115	3200.00	368000.00	115	368000.00

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	Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
			Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
2	LED Flood Light. Supplying of LED Floodlight with .....W System Power consumption pressure die cast aluminum housing with powder coating with IP 65 protection. 1, 200-275V voltage with electronic Driver, PF>0.9, should meet ANSI 2G Vibration test, Compliance to UL/CE with Class I. System rating shall be 50K hrs. @ Lumen maintenance of 70%, system efficacy > 80lm/w. Over load & Short circuit protection ensures reliable operation in spite of problem in output side. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED Efficiency>130lm/w at 1W & Fixture Efficiency >80lm/w with nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 5 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer. LED Floodlight 60W	Each			52	7129.00	370708.00	52	370708.00
3	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV.a) 50mm dia	P/mtr			30	391.00	11730.00	30	11730.00
4	Supplying and fixing of HPMH lamps on existing fitting mounted on tubular pole Single end a)70 to150Watts	Each			15	912.00	13680.00	15	13680.00
5	Supply and fixing of ...Watts heavy duty open construction ferromagnetic copper ballast for HPSV/HPMH lamps.	Each			15	1784.00	26760.00	15	26760.00
6	Supply, installation, testing and commissioning of compact ceiling speaker with power handling up to 40 Watt RMS 0/100volt@ 1456 ohms single channel. selectable taping Specs: Power handling	Each			41	1360.00	55760.00	41	55760.00
7	Supply, installation, testing and commissioning of Mixing amplifier with 4 - 6 mic/ 2 aux in with PA/REC out Single/Dual Channel power handling of 60 to 120 watt RMS 4 ohms and 100/70 volt output on bridge mode single channel Rack mountable.	Each			3	22160.00	66480.00	3	66480.00
8	Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade copper with flexible copper conductor confirming to table 3 class 5 of IS:8130-1984 and PVC insulation and sheathed suitable for working voltage upto 1100Volts as per IS-694:1990 & confirming to GTP of GROUP-B. a)4C X 1.5Sq.mm	P/mtr			500	58.6	29300.00	500	29300.00
9	Supplying and fixing telescopic M.S. bracket fabricated by using 0.5m length 4" dia telescopic M. S. pipe, with 2" dia 1.5m long M. S. bracket and are welded with suitable angle, using 6mm thick M. S. sheet, grip bolts & nuts, as required, suitable for 9 to 12 mtrs. M. S. tubular pole, with necessary two coats of painting, with all other accessories. Single bracket 1.5 Mtr. Length	Each			30	1292.00	38760.00	30	38760.00
	a) Double bracket 2x1.5 Mtr. Length	Each			90	2158.00	194220.00	90	194220.00
10	Supplying and fixing of Spiral Earth Electrodes as per standard technical specification as per BESCOM.	Each			115	544.00	62560.00	115	62560.00
11	Supplying and running GI/Copper conductor for grounding and (along with other wires in conduit system of wiring) using necessary suitable size clamps, nails, guttas/spacers etc. GI Wire 10 SWG	P/mtr			150	69.30	10395.00	150.00	10395.00

AEE (Ele.)

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	Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
			Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
12	KSRB 2-2.2 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 (Item No. - 2.4, Page No. 5) 115*0.9*0.5*0.5	Cum			25	283.02	7075.50	25.00	7075.50
13	KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.43cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2	Cum			9	5880.88	52927.92	9.00	52927.92
14	KSRB 4.9.1 : Providing mild steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3	q			1.1	6368.48	7005.33	1.10	7005.33
	PART D: J.P.Park Cabling and Panel Board Work								
	a) Incoming Panel and Utility panel								
1	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics) FOUR POLE a) 250Amps 35kA.	Each			1	16327.00	16327.00	1	16327.00
	b) 125-160Amps 25kA.	Each			18	7362.00	132516.00	18	132516.00
2	Supplying and fixing of Shunt trip suitable for MCCB.CBCT.	Each			1	1486.00	1486.00	1	1486.00
3	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898. a) 5-32Amps SP	Each			15	418.00	6270.00	15	6270.00
	b) 5-32 Amps DP	Each			15	849.00	12735.00	15	12735.00
	c) 40-63Amps TPN	Each			30	1936.00	58080.00	30	58080.00
4	Supplying and fixing of LED type panel board indicating lamp with required colour suitable for 220v A.C. 50 Hz 12/24v D.C.	Each			18	442.00	7956.00	18	7956.00
5	Supplying, fixing and wiring 0 to 600Volts 96x96mm AC Voltmeter on existing panel/wood board.	Each			1	390.00	390.00	1	390.00
6	Supplying, fixing and wiring rotary selector switch suitable for Voltmeter.	Each			1	140.00	140.00	1	140.00
7	Supplying, fixing and wiring 0 to 1500amps CT operated AC analog type Ammeter without CT	Each			1	415.00	415.00	1	415.00
8	Supplying, fixing and wiring rotary selector switch suitable for Ammeter.	Each			2	172.00	344.00	2	344.00
9	Supplying, fixing and wiring 50/5 to 400/5Amps 5VA burden Current Transformer, Class 0.5 accuracy with Tape Wound	Each			18	483.00	8694.00	18	8694.00

312361.75

	Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
			Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
10	Supplying, fixing and wiring earth leakage relay with core balanced current transformer suitable for single phase 50 Hz AC with latest microcontroller based, digital readout of percentage leakage current, programmable delay/auto/manual reset facility suitable to mount on DIN rail/ flush mounting on panel board.	Each			1	7998.00	7998.00	1	7998.00
11	Supplying ..... amps rated 3phase with neutral bus bar using required capacity electrolytic aluminum strips covered with heat shrinkable coloured PVC sleeve, mounted on phenolic/FRP/DMC insulator which are mounted on powder coated 40x6mm M.S.flat frame work in existing panel board. The bus bar shall have suitable holes for termination of incoming and outgoing cables as per IS specification with necessary bolts, nuts and washers etc., complete. a) 100Amps 4x30x6mm Aluminum Strips	mtr			20	2135.00	42700.00	20	42700.00
	b) 250Amps 4x30x10mm Aluminum Strips	mtr			10	2942.00	29420.00	10	29420.00
12	Fabricating supplying and mounting MS box made out ... SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 2 coats of red oxide primer paint and finally finished with approved colour enameled metal paint etc., complete. 6.40.1) 14SWG	Sqcms			1225000	0.37	453250.00	1225000	453250.00
13	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint. 40x40x6mm	mtr			180	263.00	47340.00	180	47340.00
14	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers. a) 63Amps	Each			30	234.00	7020.00	30	7020.00
	b) 100Amps	Each			45	360.00	16200.00	45	16200.00
15	Supplying and fixing electro mechanical timer (without contactor) using necessary bolts, nuts and washers etc.,Group 'A'	Each			15	4200.00	63000.00	15	63000.00
16	Supply and fixing of 4pole power contactor with NO/NC contacts on existing wood/panel board using necessary bolts, nuts, washers and wiring etc., complete with AC-3 Rating and as per IS-13947. a) -60-70Amps	Each			15	4774.00	71610.00	15	71610.00
17	Supplying heavy gauge PVC Conduit Pipe ....dia .....mm thick with suitable size bends, metal junction boxes adhesive paste etc., by groove cutting in the wall and fixing by bracing U or J hooks and cement plastering up to the wall surface and run with 18 SWG GI fish wire run throughout the conduit wherever necess a)19/20mm dia 2mm thick	mtr			200	56.00	11200.00	200	11200.00
	b) 25mm dia 2mm thick	mtr			100	58.00	5800.00	100	5800.00
	c) 40mm dia 2.5mm thick	mtr			200	101.00	20200.00	200	20200.00
18	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand Copper with low conductor resistance single core wire in open or concealed system of wiring with specified IS-694:1990 & confirming to GTP of GROUP -A. a) 2.5 sqmm	Per Mtr.			2400	29.20	70080.00	2400	70080.00
	b) 4 sqmm	Per Mtr.			600	42.10	25260.00	600	25260.00
	c) 6sqmm	Per Mtr.			450	63.80	28710.00	450	28710.00

AEE (Ele.)

899788

	Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
			Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
19	Supplying of 1.1 KV LT UG cable having aluminum conductor PVC insulated, extruded inner sheathed, galvanized, steel strip (except 2CX10Sq.mm wire armoured) confirming to IS-3975:1990 (No. of Strip indicated in GTP) & extruded PVC outer sheathed armoured cable with specified IS-1554 Part-1:1988 & confirming to GTP of GROUP-A.								
	a) 4 core 10 sqmm	mtr			390	118.80	46332.00	390	46332.00
	b) 4 core 16 sqmm	mtr			2800	140.40	393120.00	2800	393120.00
	c) 3.5 core 25 sqmm	mtr			900	165.60	149040.00	900	149040.00
	d) 3.5 core 35 sqmm	mtr			850	204.00	173400.00	850	173400.00
	e) 3.5 core 50 sqmm	mtr			900	265.00	238500.00	900	238500.00
	f) 3.5 core 185 sqmm	mtr			410	816.00	334560.00	410	334560.00
20	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.On wall /Structure								
	a) 6 sqmm to 16 sqmm	mtr			3190	10.80	34452.00	3190	34452.00
	b) 25 sqmm to 75 sqmm	mtr			2650	34.80	92220.00	2650	92220.00
	c)185sqmm to 240Sqmm	mtr			410	27.00	11070.00	410	11070.00
21	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7)								
	a) In soil (ordinary)	mtr			4400	78.00	343200.00	4400	343200.00
	b) In soil (Hard soil)	mtr			1400	106.00	148400.00	1400	148400.00
	c) C.C. cutting	mtr			450	212.00	95400.00	450	95400.00
22	Supplying and fixing of heavy duty cable glands suitable for UG cable of 1.1 KV class (metal only)								
	a) 25mm dia	Each			40	86.00	3440.00	40	3440.00
	b) 32mm dia	Each			10	122.00	1220.00	10	1220.00
	c) 50mm dia	Each			10	264.00	2640.00	10	2640.00
23	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.								
	a)10 sqmm	Each			750	7.65	5737.50	750	5737.50
	b)16 sqmm	Each			300	11.31	3393.00	300	3393.00
	c) 25 sqmm Long Barrel	Each			100	20.59	2059.00	100	2059.00
	d) 35 sqmm Long Barrel	Each			30	35.72	1071.60	30	1071.60
	e) 50 sqmm Long Barrel	Each			80	62.40	4992.00	80	4992.00
	f) 185 sqmm Long Barrel	Each			16	338.52	5416.32	16	5416.32
24	Supplying and fixing cast Aluminum round or oblong type bulk head fitting with GI wire guard, glass cover with 15Watts 230V CFL lamp.	Each			20	952.00	19040.00	20	19040.00
25	Supply and Installation / Fixing / Provision of Pole box with HRC Fuse / MCB provision and suitable connector / terminal for 3 Ph / 1 Ph connections with Loop-In & Loop-Out terminals for 10 Sqmm / 25 Sqmm 3.5 C Al/Ar / Cu/Ar Cable and branch out 2.5 Sqmm 2 core Al/Cu PVC Insulated cable, enclosed in a Thermoplastic, Polystyrene enclosure, which should be shock proof, safe, IP65(Weather Proof), rust proof, dust proof, water proof having Internally Embedded Gasket with provision for cable entry through IP65 Thermoplastic, polyamide glands and/or grommets.								
	a) 200mmx200mmx98mm	each			353	925.00	326525.00	353	326525.00

AEE (Ele.)

2435228.1

	Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
			Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
26	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 122 mm dia	No			18	2727.00	49086.00	18	49086.00
27	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required. GI strip 7.3.1)-25x3mm	Mtr			180	77.00	13860.00	180	13860.00
28	Supply and laying double walled corrugated (DWC) HDPE Pipe including all necessary connecting Sockets/Couplings/Tees/Bends/End-caps of same materials in existing trench as per IS 14930 part -II suitable for drawing underground cables. 7.20.1)-40mm OD / 32mm ID	Mtr			80	98.00	7840.00	80	7840.00
29	Painting of existing street light pole after scrapping the old paint and painted with suitable colour enamel/Silver paint including coping/footing of the pole. a) Upto 5Mtr street light pole.	No			300	500.00	150000.00	300	150000.00
	b) Above 5.5 to 7.5Mtr street light pole.	No			50	620.00	31000.00	50	31000.00
	High Mast and its accessories								
30	Supplying High pressure ..... Metal halide flood light luminary suitable for use with high pressure metal halide lamp with integrated control gear. The fitting shall be non corrosive high pressure die cast aluminum housing powder coated with toughened and heat resistant glass with low copper content black/grey powder coated paint finish with EPDM gasket. Reflector shall be made of high purity pre-anodized aluminum. Cable entry through a cable gland with toggle clips. IP 65 protection for both and optical and electrical compartment. Bottom cover may be with polycarbonate / tempered / toughened glass. Luminaire efficiency should be > 60% and ambient temperature > 35 deg C. High intensity discharge Electro magnetic ballast with copper winding of Octocyclic winding coil. Class H insulated dual coated copper wire. Compliance to IEC 61347-2-9 Safety and IEC 60923- performance. Winding temperature for HID ballast tw = 130 deg C and temperature rise ?T - 70 deg C. Luminaire shall be suitable to operate on 230/250Volts 50Hz AC supply finish including wiring, ignitor, condenser. SS Toggles for opening front hingeable glass, prewired to terminal block. 4.18.5)--2x400Watts	Each			22	22800.00	501600.00	22	501600.00
31	Fabricating, supplying and erection of ...Mtrs long hot dip Galvanized Octagonal pole with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of ..... long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc., (excluding foundation) as per drawing appended. 8 meters - Top 70mm and bottom 135mm dia	each			3	13932	41796.00	3	41796.00

AEE (Elg.)

795182

	Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
			Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
32	Fabrication, Supplying, Erection, Testing and Commissioning of .....Mtrs long polygon high mast with Single / Multiple telescopic sections having, (minimum overlap distance of 1.5 times of top section) thickness as per BSEN 10025 grade S 355 JO /ASTM A572-50 steel sheet plate for shaft suitable to withstand a wind velocity of 47 m/sec as per IS 875 part 3(as per GA Drawing).Base plate as per IS 2062/ASTM A572-50. The mast shall be Galvanized in single Hot-dip as per BSEN ISO 1461/ASTM A123 with an average 70 microns as per IS 2629, and welded as per BS 5135 Single L-Seam joint. The mast shall have 2way head frame with die cast LM-6 pulleys, stainless steel axle, Phosphorus Bronze bearing bush press-fitted with separate guides for 2 runs of 5mm dia, stainless steel wire rope of AISI 304grade .7/19-core, (Factor of Safety as per TR no-7). 2.5sqmm EPR insulated PCP sheathed trailing power cable housed inside the bottom shaft of mast with door having locking arrangement. The mast shall have power tool operating on 230/ 415V, 50Hz, 1/3 phases reversible geared motor. The mast shall have lantern of 2 segments, suitable dia with max load carrying capacity as per IS 1239. The mast shall be erected on existing RCC footing. The mast shall be supplied with 3mm thick template, lightning arrester of 1.2m length galvanized pipe with top arrow fitted on top of the head frame cover and GLS type aviation twin lamps fitting with wiring complete. (excluding foundation) as per technical data. (Item No. - 5.17)--5.17.1) 12Mtrs/12.5Mtrs - Top 100mm and bottom 310 mm dia	Each			3	120000.00	360000.00	3	360000.00
33	KSRB 2-2.2 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5	Cum			48	283.02	13584.96	48	13584.96
34	KSRB 2.3 : Filling available excavated earth (excluding rock) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications. specification. No. KBS 2.9	Cum			30	127.20	3816.00	30	3816.00
35	KSRB 2.8 : Providing and Filling in foundation with granite / trap broken metal 100mm. and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with all lead and lift. complete as per specifications. specification. No. KBS	Cum			9	2133.78	19204.02	9	19204.02
36	KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2	Cum			3.2	4976.70	15925.44	3.20	15925.44

AEE (Plg.)

412529

	Items Grouped under sub Heads and sub works of the Estimate	Unit	Previous Measurement		Present Measurement			Total Up to date	
			Qty	Cost	Qty	Rate Rs Ps	Amount Rs ps	Qty	Cost
37	KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @. 0.43cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2	Cum			13	5880.88	76451.44	13.00	76451.44
38	KSRB 4-6.1 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specificaitons. Specification No. KBS 4.6.2	Sqm			30	239.56	7186.80	30.00	7186.80
39	KSRB 4.9.1 : Providing mild steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3	q			5.6	6368.48	35663.49	5.60	35663.49
40	KSRB 15.3.1 Providing 12mm thick cement plaster in single coat with cement mortar 1:3, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.	Sqm			14.5	181.26	2628.27	14.50	2628.27
	SUB TOTAL						17944302.00		17944302.00
	ADD KRIDL CHARGES @ 11% on Sub total as per the Agreement.						1973873.22		
							19918175.00		
	Rupees One Crore Ninety Nine Lakh Eighteen Thousand One Hundred and Seventy Five Only								

Asst. Engineer
KRIDL, BBMP, RR Nagara

Certificate: Certified that this work carried out satisfactorily.

ADD BESCOM Deposit charges paid by contractor vide Receipt No:. 055531 28236, Dtd:. 31/07/2018 — — — ₹. 22,760=00

ADD BESCOM Deposit charges paid by contractor vide Receipt No:. 0584301791096 Dtd:. 31/07/2018 — — — — — ₹ 13,660=00

ADD. BESCOM Energy meter purchase cost paid by contractor vide Bill No:-001223 Dtd:. 2/8/2018 — — — — ₹ 1,730=00

ADD BESCOM Energy meter purchase cost paid by contractor vide Bill No-268148 — — — ₹. 671=00

₹ 19956998/-

121928